IN THE CLAIMS

A presentation of all of the pending Claims with their current status indicated follows.

1. (Original) A method for manufacturing shot useful for discharge from a shotgun comprising:

providing a source of molten steel having an initial carbon content;

subjecting the molten steel to an atomization process so as to produce substantially spheroidal pellets;

annealing the pellets in a decarburizing atmosphere effective to decrease the carbon content in at least a surface layer of each of the pellets; and

cooling the pellets, whereupon, on average the surface layer has a median Knoop hardness of less than 225 at 21°C.

2. (Original) The method of claim 1 further comprising packaging the pellets in packages labeled as for use in loading shotshells.

3. (Original) The method of claim 1 further comprising loading the pellets into shotshells.

4. (Original) The method of claim 1 wherein the atomization process comprises water atomization.

5. (Original) The method of claim 1 wherein the surface layer is at least 0.1 mm thick.

6. (Original) The method of claim 5 wherein the surface layer is at least 0.3 mm thick.

7. (Original) The method of claim 1 wherein the surface layer has a thickness of at least 1% of an average diameter of the associated pellet.

8. (Original) The method of claim 7 wherein the surface layer has a thickness of 5%-10% of an average diameter of the associated pellet and the carbon removal is effective to

provide the surface layer with a Knoop hardness of less than 225 at 21°C over substantially the entire surface layer.

9. (Currently Amended) The method of claim 1 wherein [~~the~~] a core region of the pellet located radially inward of the surface layer has an average diameter of at least 50% of an average diameter of the associated pellet.

10. (Original) The method of claim 1 wherein the carbon removal is effective to provide the surface layer with a Vickers hardness of no more than 180 at 21°C over a majority of the surface layer.

11. (Original) The method of claim 10 wherein the carbon removal is effective to provide the pellets with a Vickers hardness of between 130 and 180 at 21°C substantially throughout.

12. (Original) The method of claim 1 wherein the spheroidal pellets have characteristic diameters between 0.08 inch and 0.23 inch.

13. (Original) The method of claim 12 wherein the pellets are #4 pellets and the subjecting step produces additional pellets and the method further comprises separating the additional pellets from the #4 pellets prior to the annealing step.

14. (Original) The method of claim 1 wherein the annealing leaves sufficient carbon in a core region of each pellet so that a majority of the core region has a Vickers hardness of more than 200 at 21°C and the carbon removal is effective to provide the surface layer with a Vickers hardness of between 130 and 180 at 21°C over a majority of the surface layer.

15. (Original) The method of claim 14 wherein prior to annealing the pellets have a combined manganese and silicon concentration of at least 0.8% by weight.

16. (Original) The method of claim 14 wherein prior to annealing the pellets have a composition by weight of:

0.85-1.2% carbon;

0.4-1.2% manganese;

0.4-1.5% silicon; and

remainder iron with up to 1% additional components.

17. (Original) A method for efficient manufacturing of shot for discharge from a shotgun comprising:

providing a source of molten steel;

subjecting the molten steel to an atomization process so as to produce particles;

segregating the particles into a plurality of groups based upon at least one parameter of particle size and particle shape, said plurality of groups including:

at least one ballistic group predominately designated for ballistic use wherein the particles are substantially spheroidal pellets having characteristic diameters between 0.08 inch and 0.23 inch; and

at least one industrial group predominately intended for industrial use;

annealing the pellets of the ballistic group in a decarburizing atmosphere effective to remove carbon from at least a layer of each of said spheroidal pellets; and

allowing the pellets to cool, the carbon removal being effective to, on average, provide the layer with a Knoop hardness of less than 225 at 21°C over a majority of the layer.

18. (Original) The method of claim 17 wherein:

the segregating includes:

segregating a plurality of such industrial groups of particle size and shape useful as industrial shot, leaving a first remainder of particles; and

segregating said at least one ballistic group from said first remainder of particles, leaving a second remainder of particles.

19. (Original) The method of claim 18 further comprising:

crushing at least part of said second remainder to form industrial grit useful for grit blasting.

Claims 20-28 (Withdrawn).

29. (Original) A method for manufacturing a shotload for discharge from a shotgun comprising the steps of:

providing a source of molten steel;

subjecting the molten steel to a water atomization process so as to produce substantially spheroidal pellets, each having a characteristic diameter (D) in inches;

annealing the spheroidal pellets; and

cooling the pellets, whereupon on average at least a surface layer of each of the spheroidal pellets has a median Vickers hardness (H) of less than (300+((D-0.1)(-2000))) at 21°C.

30. (Original) The method of claim 29 wherein the annealing comprises annealing the spheroidal pellets in a decarburizing atmosphere effective to decrease the carbon content in the surface layer of each of the spheroidal pellets.

31. (Original) The method of claim 29 wherein D is between 0.08 inch and 0.23 inch.

32. (Original) The method of claim 29 wherein prior to annealing the pellets have a composition by weight of :

0.85-1.2% carbon;

0.4-1.2% manganese;

0.4-1.5% silicon; and

remainder iron with up to 1% additional components.

33. (Original) The method of claim 32 wherein H is less than (275+((D-0.1)(-1900))) at 21°C.

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34. (Original) A method for manufacturing a shotload for discharge from a shotgun comprising the steps of:

providing a source of molten steel;

subjecting the molten steel to a water atomization process so as to produce substantially spheroidal pellets;

annealing the pellets; and

cooling the pellets, whereupon on average at least a surface layer of each pellet has a median Vickers hardness of less than 200 if such pellet is #4 size or larger and a Vickers hardness of between 200 and 300 if such pellet is smaller than #4 size.

35. (Original) The method of claim 34 wherein the pellets are between #9 size and T-size, inclusive.